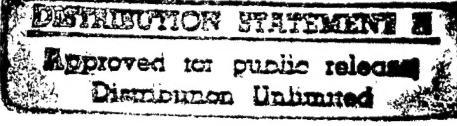


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LITIGATING GROUNDWATER CONTAMINATION: IS IT WORTH THE PRICE? SIX CASE STUDIES

Zeb Pischnotte

Toxic Substances - Professor Poulter
May 19, 1997

“When I had the Ford case,” Liccardo said angrily, “I only spent fifty thousand dollars on it, and that was a huge case. I never heard of anybody spending three hundred thousand on a case. It’s insane.”

*Sal Liccardo*¹

“It’s a black hole.” “We don’t want that one.” “Get rid of it. Please.”

*Kevin Conway*²

I. INTRODUCTION

A Civil Action³ is a nonfiction chronicle of the events and circumstances in Woburn, Massachusetts, a town located 13 miles north of Boston, which led to litigation for deaths and

¹*Infra* note 3 at 142. According to Harr, Sid Liccardo is a California lawyer who gained fame for his suits against car manufacturers. This was Liccardo’s reaction to a presentation by Jan Schlichtmann, the lead attorney for the plaintiffs in *Anderson v. Cryovac*, *infra* note 4, during a fall 1979 Trial Lawyers for Public Justice board meeting in which Schlichtmann informed the board he estimated the *Anderson* case would cost three hundred thousand dollars to a half a million dollars if it were to go to trial.

²*Infra* note 3 at 74 and 125. According to Harr, these are remarks Kevin Conway, one of Schlichtmann’s partners, made to Schlichtmann regarding the *Anderson* case, *infra* note 4.

³A CIVIL ACTION, JONATHAN HARR (First Vintage Books Edition 1996)(1995).

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injuries allegedly caused by industrial chemical contamination in the Woburn City public water system, the *Anderson*⁴ case. The book generally follows chronologically from the time when twelve children residing in Woburn, six of which lived within a one-half mile radius of each other, were diagnosed with leukemia,⁵ to the discovery of contamination in the city water system, and then through the lengthy litigation that followed this discovery. More importantly than simply telling this story, *A Civil Action* takes a hard look at the often gargantuan efforts, in terms of time, resources, and money, both plaintiffs and defendants must put forth in pursuing and defending environmental litigation of this type. Although the result in *Anderson* was arguably favorable to the plaintiffs,⁶ the book left me asking myself, “Was it worth it?”

The purpose of this paper is to take a close look at *Anderson*, as well as five additional cases involving litigation over groundwater contamination,⁷ and then shed some light on

⁴The details of the underlying litigation are laid out in the opinions generated by the case. See *Anderson v. Cryovac, Inc.*, 96 F.R.D. 431 (D. Mass. 1983)[*Anderson I*]; *Anderson v. W.R. Grace & Co.*, 628 F. Supp. 1219 (D. Mass. 1986)[*Anderson II*]; *Anderson v. Cryovac, Inc.*, 802 F.2d 1 (1st Cir. 1986)[*Anderson III*]; *Anderson v. Cryovac, Inc.*, 862 F.2d 910 (1st Cir. 1988)[*Anderson IV*]; *Anderson v. Beatrice Foods Co.*, 127 F.R.D. 1 (D. Mass. 1989) [*Anderson V*]; *Anderson v. Beatrice Foods Co.*, 129 F.R.D. 394 (D. Mass. 1989)[*Anderson VI*]; *Anderson v. Beatrice Foods Co.*, 900 F.2d 388 (1st Cir.), *cert. denied*, 498 U.S. 891, 111 S.Ct. 233 (1990)[*Anderson VII*].

⁵*Supra* note 3, at 46.

⁶*See infra* note 30 and accompanying text.

⁷The cases are *Renaud v. Martin Marietta*, *infra* note 40; *Carroll v. Litton Systems*, *infra* note 54; *Sterling v. Velsicol*, *infra* note 76; *Woodman v. United States*, *infra* note 89; and *Potter v. Firestone Tire and Rubber Co.*, *infra* note 113. These cases were found through WestLaw and LEXIS searches using various combinations of search terms such as “groundwater, contaminat*,”

possible answers to question “Was is it worth it?” Because A Civil Action’s account of the *Anderson* litigation provides the reader with an in-depth look at the types and amount of expenses associated with cases involving contamination of drinking water, I will use it as starting point from which to give the reader an idea of the complexities involved in this type of litigation. I will then provide facts of the five additional cases after which I will discuss the relative successes or failures of plaintiffs with respect to time and money invested in the cases as compared to the ultimate outcomes.

II. ANDERSON V. CRYOVAC⁸

A. BACKGROUND

In November 1964, to address a shortage of water in the Woburn, Massachusetts, the city drilled a well (“Well G”) on the east side of town in a marshy area to the east of the Aberjona River, which runs in a southerly direction along the eastern border of Woburn.

lawsuit, and aquifer.” A large majority of the cases found dealt with contribution actions for clean-up under CERCLA, 42 U.S.C. §113(f), or other issues not directly pertaining to personal injuries such as diminution in property value was the main focus. *See e.g.*, Adkins v. Thomas Solvent Co., 487 N.W.2d 715 (Mich. 1992). To fill in the often missing details, in addition to searching through case law databases, I also searched through various news and periodical databases. The cases I chose to use for purposes of this paper represent those that most closely parallel *Anderson* in that they specifically deal with groundwater contamination and alleged health effects caused from the consumption of the contaminated water. While there are most certainly other cases on the subject that are being or have been litigated or settled, they were not readily accessible through the research tools at my disposal.

⁸*Anderson I-VII, supra* note 4.

Even with Well G on line there was not enough water to meet Woburn's needs so, in 1967, the city dug another well ("Well H") approximately 300 feet from Well G. Both wells pumped water from the Aberjona aquifer.⁹ Although Wells G and H were connected to the Woburn public water system, the water from the wells primarily served the homes on the east side of town and, to a lesser extent, homes in some north and central sections of Woburn.¹⁰

Residents living in east Woburn had noticed a change in the water which was eventually linked to the time when Well G came on line. In the fall of 1969, in response to complaints from residents about the odor and taste of the water, the Woburn mayor ordered Wells G and H closed. This began a long cycle in which the wells would be opened during periods of shortage in the dry summer months and closed each fall when demand for water was not so high. Although the Woburn water pumping station engineer claimed the water from Wells G and H was "absolutely safe," each time the wells were opened the residents complained about the taste and odor. When the wells were closed, the taste and odor dissipated as did the complaints.¹¹ Tests conducted in May, 1979, indicated the water in both wells was

⁹HARR, *supra* note 3, at 22. The Aberjona aquifer was formed about 12,000 years ago by the last glacier to cover New England. The glacier had created a large valley which, over the years, had filled with silt, sand and gravel. The Aberjona River now flows at the surface while the sediment-filled valley acts as a "sponge" thereby creating a subterranean reservoir. An aquifer is defined as an underground layer of permeable rock, sand, or gravel containing groundwater that can supply wells and springs. ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 1400 (2nd ed. 1996).

¹⁰*Id.*

¹¹*Id.* at 36.

contaminated with trichloroethylene (“TCE”)¹² and tetrachloroethylene (“perc”),¹³ (both substances considered by EPA to be probable carcinogens),¹⁴ and several other chemicals in lesser quantities. The city then declared an emergency and immediately shut down both wells, this time permanently.¹⁵

When looking for a source of the contamination the Massachusetts Department of Public Health focused its attention on the east and northeast area of Woburn in which a number of industries had been located dating back to the mid-1600's. At the time of the Civil War, Woburn had 20 tanneries in town (as many as Philadelphia) and was referred to as “Tan City.”¹⁶ By the late 1960s the only tannery still operating in town was the John J. Riley Tannery (“Rileyco”), located on the west bank of the Aberjona river. At that point the river is only a few feet wide and waste-deep, with marshes located on either side.¹⁷ In December 1978, the Beatrice Company, Inc., acquired Rileyco, and, under the terms of the acquisition documents, assumed Rileyco's environmental liabilities.¹⁸ Another large industry in the northeast area of Woburn was

¹²TCE is a chlorinated solvent which is often used to clean and degrease metal. 59 FR 13044 (1994).

¹³*Id.* Perc is commonly used chlorinated solvent which is often used to clean metals as well as in the dry cleaning industry; *see also* Blair A. Decoufle P, Grauman D., *Causes of Death Among Laundry and Dry Cleaning Workers*, 69 AM. J. PUB. HLTH. 508-11 (1979).

¹⁴58 Fed. Reg. 62566 (1993).

¹⁵HARR, *supra* note 3, at 26.

¹⁶*Id.* at 12.

¹⁷*Id.* at 13.

¹⁸*Anderson IV*, 862 F.2d at 914. In January of 1983, Beatrice resold the main tannery

a chemical factory operated by W. R. Grace (Grace).¹⁹ These two companies became the main focus in *Anderson*.

In January 1972, James Anderson, the son of the lead plaintiff in the case, was diagnosed with acute lymphocytic leukemia. This form of leukemia is often referred to as childhood leukemia.²⁰ Eventually information would indicate there were 12 cases of childhood leukemia in Woburn during a fifteen year period. When each known case was plotted on a map according to its street address, eight were located in east Woburn (within a half mile radius of each other) and six of these eight cases were clustered in the Pine Street neighborhood where the Andersons lived.²¹

A Massachusetts Department of Health study of the situation in Woburn indicated a 17 percent increase in cancers during a five-year period in the mid 1970's, particularly leukemia. In July, 1981, a Centers for Disease Control report stated in part: "Analysis of residences

property back to Rileyco which was controlled by John J. Riley. Simultaneously, a 15-acre area of the property comprised of wetlands was transferred to an entity bearing the name "Wildwood Conservation Corporation" which, like Rileyco, was controlled by John J. Riley. *Id.*

¹⁹Grace is a subsidiary of Cryovac, Inc. *Anderson III*, 802 F.2d at 3.

²⁰See MERCK MANUAL 1180 (15th ed. 1987). This form of leukemia is generally referred to a acute nonlymphoblastic leukemia, and generally occurs in children from ages three to five. Such a condition when diagnosed in the early 1960s was virtual always fatal, most children dying within weeks of diagnosis. Recent advances in treatment, including a regimen of chemotherapy and radiation, have raised chances of surviving for five years to better than 50 percent. *Id.* See also HARR, *supra* note 3, at 16.

²¹*Id.*, HARR, at 40.

at the time of diagnosis reveals a significant concentration of cases in the eastern part of Woburn, where the incidence of disease was at least seven times greater than expected.”²² Although the report indicated the CDC could not yet establish a direct link between the contaminated water and the childhood leukemia, it indicated there was reason for suspicion.²³

B. THE LITIGATION

On May 18, 1982, three years after the discovery of the contamination, 33 plaintiffs joined in a lawsuit against Riley and Grace²⁵ alleging both companies had disposed of toxic chemicals on their property and that the chemicals had contaminated Wells G and H and, in turn, the water

²²*Id.* at 50. On May 7, 1996, the Massachusetts Department of Public Health released a draft final report on the leukemia cases in Woburn entitled Woburn Childhood Leukemia Follow-Up Study, Draft Final Report, Massachusetts Department of Public Health, May 7, 1996. According to the study at page 10, it still not possible to establish when chemical contamination first reached Wells G and H, nor the degree to which concentrations of various chemicals may have varied over time. It is possible, however, to examine the known hydrology of the area and contaminated groundwater plumes and it “was deemed plausible that contaminated groundwater reached Wells G and H prior to 1979.” For purposes of the study the Massachusetts Department of Public Health assumed this was the case. The study, at page 3, also indicated “the results consistently were in the direction of an association and support the hypothesis that childhood leukemia in this population may be related to mother’s exposure to contaminated water from Wells G and H during pregnancy.” Additionally, the study noted on page 112 that, during the period 1986 to 1994, there were no new cases of childhood leukemia diagnosed in Woburn and that only two new cases have been diagnosed since 1994. This “pattern of incidence suggests that childhood leukemia rates have begun to return to that expected in a population the size of Woburn [35,000].”

²³*Id.*, HARR.

²⁵Grace joined another defendant, Unifirst, a clothing manufacturer, in the action shortly after it was filed. Unifirst, however, settled with plaintiffs almost immediately for \$1,000,050. This settlement was used to help finance the plaintiffs’ case. *See id.* at 144.

pumped to their homes through the city water system. Five of the plaintiffs were the administrators of minors who had died of leukemia prior to the litigation. They brought suit for wrongful death and conscious pain and suffering. Sixteen of the 28 living plaintiffs were members of the decedents' immediate families. These plaintiffs sought to recover for the emotional distress caused by witnessing the decedents' deaths. Three of the living plaintiffs had also contracted leukemia and were either in remission or treatment for the disease at the time of the trial.²⁶

The 25 non-leukemic plaintiffs alleged that exposure to the contaminated water had caused a variety of illnesses and damaged their bodily systems. Among these illnesses were chronic rashes, gastrointestinal problems, burning eyes, and cardiac arrhythmias. All of the living plaintiffs sought to recover for their illnesses as well as increased risk of developing future illness, and emotional distress. At the time of trial, six of the plaintiff families still resided in the area in which the alleged contamination took place. These plaintiffs filed a claim for nuisance and sought damages and an injunction ordering the defendants to (1) halt the disposal of hazardous substances on defendant's property in Woburn, (2) to remove the substances previously dumped on the property, and (3) to remove all contamination from the groundwater flowing beneath East Woburn and the plaintiffs' property.²⁶

²⁶*Anderson II*, 628 F. Supp., at 1222.

²⁶*Id.*

Prior to trial the judge determined the trial would be bifurcated (or polyfurcated) into four segments to facilitate the proceedings.²⁷ The issues to be determined during each phase were: 1) Whether or not the defendants were responsible for the contamination; 2) Whether or not the chemicals caused the plaintiffs' leukemia; 3) Whether or not the chemicals caused the plaintiffs' other health problems; and 4) damages.

More than seven years after the discovery of the contamination, the case finally went to trial before a jury on March 10, 1986. The first segment of the trial, involving the defendants' responsibility for the contamination, lasted 76 days. During this phase the jury heard 45 witnesses, including plant employees and experts in hydrology and geology, and saw 450 charts, graphs, and other exhibits.²⁸ After two weeks of deliberations, the jury concluded Beatrice had not contributed to the contamination of Wells G and H but that Grace had substantially contributed to the contamination of the wells after September 1973. This meant that the claims for the deaths of three of the deceased plaintiffs would likely be dismissed prior to the next phase of trial because they had died prior to that date.²⁹ Realizing this, as well as the heavy burden they would face in proving the chemicals caused the leukemias and other diseases, plaintiffs negotiated with Grace and settled the case for a reported \$8 million. The Judge approved the

²⁷HARR, *supra* note 3, at 286-7. See Albert P. Bedecarre, *Rule 42(b) Bifurcation at an Extreme: Polyfurcation Of Liability Issues In Environmental Tort Cases*, 17 B. C. ENVTL. AFF. L. REV. 123, for an in-depth discussion of this type of trial procedure.

²⁸*Firm Liable for Tainted Wells - Jury to Decide if Contamination Caused Leukemia*, CHICAGO TRIBUNE, July 29, 1986, at C5.

²⁹HARR, *supra* note 3, at 394.

final settlement on September 22, 1986, almost seven-and-one-half years after Wells G and H had been closed.³⁰ Plaintiffs appealed several procedural issues, but on December 7, 1988, the United States Court of Appeals for the First Circuit affirmed the district court's actions on the case.³¹

C. CASE EXPENSES

As stated above, the *Anderson* case is a good starting point from which to get an idea of the complexities associated with litigation involving contaminated drinking water. In addition to highlighting such areas as problems of proof, causation, and the massive amounts of time and energy both plaintiffs and defendants must invest, it also provides some hard, cold figures regarding the costs of pursuing and defending such cases. Although financial considerations are arguably not the only factors to take into account when asking the question, "Is it worth it?", they will often bear heavily on whether or not, or exactly how far, a plaintiff can proceed. Therefore, the focus of this paper will turn at this point to the specific costs of litigation.

Plaintiffs' first major obstacle in the case was to prove the contamination got from the Grace and Beatrice properties and into the city water system. In order to do this the plaintiffs had to show the Grace and Beatrice properties were contaminated with TCE and other toxic solvents and that these solvents had seeped into the groundwater and migrated to Wells G and H by the late 1960's, before the leukemias and other ailments were reported. Neither the EPA nor the

³⁰*Id.* at 451-2.

³¹*Anderson IV*, 862 F.2d at 932.

State of Massachusetts had studied the aquifer fully before the trial, so in order to get evidence regarding the direction rate of underground water flow, the plaintiffs had to hire a firm, Western Geophysical (Western), to drill numerous test wells. Western's bill amounted to \$598,483.76, the largest single account in the entire case.³²

In addition to having to locate witnesses who could (and would) testify regarding the dumping of chemicals on the Beatrice and Grace properties, the plaintiffs also employed the services of a hydrological and a geological expert. The geologist was needed to testify regarding the extent and approximate time of contamination of the soil. The hydrologist testified as to how the chemicals migrated into the aquifer and were then drawn by the pumping action into Wells G and H and interpreted the data provided by the Western Geophysical.

Medical experts in the case eventually numbered twelve, not including plaintiff's personal physicians. Plaintiffs' attorneys had to shoulder not only the burden of paying for their services, generally billed at about \$200 per hour, also the costs of transporting them to Boston from all over the country and providing them with accommodations. Because of the voluminous medical records in the case, most experts, such as cancer specialists, pathologists, immunologists, and toxicologists, charged about \$2,500 as an initial consultation fee.³³

³²HARR, *supra* note 3, at 349.

³³*Id.* at 200.

The medical experts eventually included plaintiffs' treating physicians as well as: a specialist in occupational and environmental medicine who was flown from Chicago to Boston with two other physicians and a lab technician to perform studies on 28 of the plaintiffs at a cost of \$88,729; a cardiologist from the Boston University School of Medicine who tested 17 of the plaintiffs for arrhythmias at a cost of \$55,762; and the Chairman of the Department of Neurology at the Boston University School of Medicine who performed neurological tests on 28 of the plaintiffs at a cost of \$1,000 per person for a total of \$28,000.³⁴

Additional costs included: aerial photographs of the area of contamination and experts to interpret them, \$15,000; payment for overnight transcriptions of depositions and trial transcripts at a cost of \$3.50 a page (this could amount to more than \$12,000 a day);³⁵ and interest of several hundred dollars a day on loans taken out from the Bank of Boston to finance the case.³⁶ Prior to trial, plaintiffs' case expenses exceeded \$1.8 million.³⁷ At the time of settlement, plaintiff's attorney and other fees totaled \$4.8 million; \$2.6 million in cases expenses and \$2.2 million in attorney fees.³⁸

³⁴*Id.* at 203. The book does not break down the allocation of expenses between leukemic and non-leukemic plaintiffs. However, based on the breakdown, 8 leukemic (5 of which were deceased) and 25 non-leukemic, it is reasonable to assume the majority of these fees were spent on the non-leukemic plaintiffs.

³⁵*Id.* at 210.

³⁶*Id.* at 262.

³⁷*Id.* at 263.

³⁸*Id.* at 453. Plaintiffs had originally agreed to a 40 per cent contingency fee but their attorneys reduced this amount to 20 per cent in light of the settlement which was far below the

More overwhelming than the amounts plaintiffs spent on the case, however, is the fact that Grace and Beatrice each paid \$7 million in attorney and case fees.³⁹

III. RENAUD V. MARTIN MARIETTA⁴⁰

A. BACKGROUND

Another groundwater environmental tort case with similar causation issues and problems of proof is Renaud v. Martin Marietta.⁴¹ In 1956, the Martin Marietta Corporation (Martin) opened a facility in Waterton, Colorado, located near Denver, for the purpose of developing, testing, and manufacturing Titan missile systems and other aerospace equipment. These operations resulted in the production of large quantities of rocket fuel waste consisting primarily of various types of hydrazines,⁴² hydrazine byproducts, and other production wastes such as TCE.⁴³

amount they had predicted.

³⁹*Id.* at 452. Defendant's medical experts included 28 specialists with impressive resumes, several from the Harvard Medical School, including: 6 toxicologists, 5 epidemiologists, 3 neurosurgeons, a cardiologist, a psychiatrist, a pediatric hematologist, a molecular biologist, and several immunologists, chemists, and pathologists. As of this date, Beatrice is apparently still in the process of trying to recover its defense costs from various insurance companies. *See American Mutual Liability Insurance Co. v. Beatrice Companies, Inc.*, 924 F.Supp. 861 (N.D. Ill. 1996).

⁴⁰The details of the underlying litigation are laid out in the opinions generated by the case. *See Renaud v. Martin Marietta*, 749 F. Supp. 1545 (D. Col. 1990)[*Renaud I*]; and *Renaud v. Martin Marietta*, 972 F.2d 304, (10th Cir. 1992)[*Renaud II*].

⁴¹*Id.*

⁴²The International Agency For Research On Cancer has classified hydrazines as Group

Martin's plant was located uphill and upstream from the Kassler Water Treatment Plant (Kassler), one of the water distribution facilities owned and operated by the City and County of Denver. Kassler obtained its water from a creek which ran through the Martin plant property as well as from groundwater which also passed through the Martin plant property. In January, 1985, the Colorado Department of Health discovered TCE in water being treated at Kassler and immediately closed the plant. The State of Colorado subsequently ordered Martin to discontinue its unpermitted discharge of wastewater into the creek and ordered Martin to pay \$1 million in civil penalties.⁴⁴

B. THE LITIGATION

The plaintiffs (twelve altogether), were residents of Friendly Hills, a southwest Denver suburb. They brought the action in January, 1987, two years after Kassler was closed. In their complaint, they set forth numerous claims primarily based on common law torts. They alleged they suffered a variety of injuries which were caused by Martin's improper disposal of hazardous waste into the creek and the ground water system, that the contaminants had made their way to Kassler, and that this contaminated water was then distributed to their homes through the City

2B carcinogens. *Renaud I*, 749 F. Supp. at 1547.

⁴³*Id.*

⁴⁴*Id.*

and County of Denver's water distribution system. Plaintiffs' homes were located about ten miles away from Kassler. They alleged that the contaminated water caused twelve primary injuries as well as lesser related injuries. Specifically: four of the plaintiffs were children who had been diagnosed with cancer; one plaintiff was an adult who suffered from kidney cancer; five plaintiffs were children who allegedly suffered from seizure disorders; and two of the plaintiffs were children with birth defects of the heart.⁴⁵ Plaintiffs were seeking damages totaling \$130 million.⁴⁶

After several status conferences and considerable discussion with attorneys for both sides, the judge determined the most efficient procedure would be to hold a series of summary judgment proceedings, the main one being an evidentiary summary judgment hearing at which plaintiffs would present their *prima facie* case of causation as if they were presenting the case to the jury at trial. If the judge determined that plaintiffs had met their *prima facie* burden, a test trial would be scheduled in which all of the claims of one or two representative plaintiffs would be tried to a jury.⁴⁷

During the five-day evidentiary hearing in July of 1990, plaintiffs submitted thousands of pages of documents which confirmed the poor hazardous waste management practices at

⁴⁵*Id.*

⁴⁶Mary George, *Martin Marietta Cleanup Plan OK'd*, DENVER POST, Sept. 25, 1990, at B1.

⁴⁷*Renaud I*, 749 F. Supp. at 1548.

Waterton. They also presented testimony from at least a dozen witnesses regarding the evidence of contamination at the plant, chemical fate and transport, water distribution, and medical causation. Although the judge concluded at the end of the hearing that Martin had engaged in “poor management practices” that caused “massive contamination,” she ruled the plaintiffs failed to supply adequate evidence that enough contaminants had reached their homes to cause the alleged injuries.⁴⁸ The judge also indicated the plaintiffs had failed to provide sufficient evidence of medical causation.⁴⁹ On November 12, 1990, almost four years after plaintiffs filed the complaint, the judge dismissed the case pursuant to Martin’s motion for summary judgement.⁵⁰ The Court of Appeals for the Tenth Circuit affirmed the District Court’s ruling on August 4, 1993.⁵¹

C. CASE EXPENSES

In attempting to show the chemicals from Martin’s plant reached the plaintiffs’ homes, the plaintiffs employed at least four experts to compile a report on chemical fate and transport as well as to interpret the report and testify at the evidentiary hearing. These experts included: an

⁴⁸Howard Pankratz, *Martin-Area Residents Lose Suit on Water*, DENVER POST, Nov. 13, 1990, at A1. Plaintiffs’ experts based virtually their entire case on chemical fate and transport on a report which drew conclusions as to specific amounts of contaminants in plaintiffs’ drinking water over an eleven-year period from a single sample taken from a pond on Martin’s property.

⁴⁹*Renaud I*, 749 F. Supp. at 1553.

⁵⁰*Id.* at 1555.

⁵¹*Renaud II*, 972 F.2d at 308.

industrial hygienist, who testified about numerous unacceptable practices at the plant; an expert in chemistry and environmental sciences; an expert in environmental engineering, hydrology and pollution transport; and an expert in engineering and ground water hydrology.⁵²

In presenting their case on causation, the plaintiffs called no less than five experts in the following specialty areas: a doctor of veterinary medicine with expertise in chemical carcinogenesis and toxicology; an expert in genetic toxicology with emphasis on cancer, teratology and transmissible genetic damage; a physician with expertise in clinical medicine who specialized in workplace and environmental medicine; an epidemiologist; and a public health physician.⁵³

No specific dollar figures were readily available with respect to plaintiffs' costs in preparing and presenting the case. However, based on the facts of the case, it is reasonable to assume the expenses paralleled those of the other cases studied. I will discuss these expenses further in section VIII of this paper.

IV. CARROLL V. LITTON SYSTEMS⁵⁴

⁵²Renaud I, 749 F. Supp. At 1546-49.

⁵³*Id.* at 1549-50.

⁵⁴Additional details of the underlying litigation are laid out in the opinions generated by the case. *See Carroll v. Litton Systems, Inc., No. B-C-88-253, 1990 U.S. Dist. LEXIS 16833*

A. BACKGROUND

In 1967, Litton Systems, Inc., built a manufacturing facility near Murphy, North Carolina (the Clifton Precision Plant). From the time of its construction until about 1974, Litton used TCE as a degreasing solvent in the plant's machinery. In late 1986, Litton detected the presence of chemicals in the industrial well servicing its plant. Subsequent to this discovery Litton took samples from private residential wells located near the plant and discovered trace levels of TCE and other similar chemicals such as Trichloroethane and Dichloroethane. Between 1987 and 1990, the average concentration of TCE in the wells was less than 20 parts per billion (ppb), with measured concentrations ranging from zero to 84 ppb.⁵⁵ The EPA drinking water standard for TCE is 0.005 parts per million (ppm), or 5 ppb.⁵⁶

Although Litton denied any of the chemicals found in the plaintiffs' wells came from its plant, after their discovery Litton promptly implemented a variety of remedial measures, to include providing bottled water for a period of time to the individuals whose wells contained chemicals. Litton also installed and maintained carbon adsorption filters on these wells.

(W.D.N.C. Oct. 29, 1990)[*Carroll I*](This opinion is broken down into three parts: Part I - Findings of Fact consisting of 108 pages; Part II - Conclusions of Law consisting of 101 pages; and Part III - Memorandum and Recommendations consisting of 90 pages); *Carroll v. Litton Systems, Inc.*, No. 9202219, 1995 U.S. App. LEXIS 2015 (4th Cir. Feb. 1, 1995)[*Carroll II*], *cert. denied*, 116 S.Ct. 70 (1995)[*Carroll III*].

⁵⁵*Carroll I*, 1990 U.S. Dist. LEXIS 16833, Part I, at 1-3.

Litton claimed a creek that flowed between its plant and the plaintiffs' residences would have acted as a hydrogeological barrier to groundwater flow and it would have, therefore, been impossible for its chemicals to have moved from Litton's property to plaintiffs' wells.⁵⁷

B. LITIGATION

In October 1988, 29 plaintiffs filed suit alleging claims for personal injury, property damage, out-of-pocket expenses, and injunctive relief. They based their case on common-law theories of negligence, gross negligence, strict liability for ultra hazardous activities, nuisance, and trespass. Plaintiffs also claimed for the recovery of response costs under CERCLA,⁵⁸ and asserted a claim under the "citizen suit" provisions of the Resource Conservation and Recovery Act ("RCRA")⁵⁹ alleging Litton's plant was in violation of RCRA. By October 1990, 24 plaintiffs, 18 adults and six minor children, remained in the action.⁶⁰

⁵⁶40 C.F.R. §141.32(e)(1) (1986).

⁵⁷*Carroll I*, 1990 U.S. Dist. LEXIS 16833, Part I, at 1-3.

⁵⁸42 United States Code § 9607(a). This included claims for response costs for testing of groundwater and soil, costs for alternative water supplies, costs for medical testing and surveillance, and attorneys' fees.

⁵⁹42 United States Code, §§ 6971, *et seq.*

⁶⁰ *Carroll I*, 1990 U.S. Dist. LEXIS 16833, Part I, at 14. The original complaint actually named 30 plaintiffs; one plaintiff was named twice under different names. Two plaintiffs, Lucille and Crystal Leatherwood, were voluntarily dismissed without prejudice because they could no longer be found by plaintiffs' counsel. Complaints of three other plaintiffs were dismissed with prejudice, on an earlier motion for summary judgment, because no chemicals had been shown to

The complaint alleged that the exposure to chemicals occurred as a result of the chemicals entering their homes, the home's of plaintiffs' relatives, or plaintiffs' workplaces, through groundwater pumped in for domestic use. Among the injuries plaintiffs alleged were caused by exposure to the tainted water were nervous system damage, gastrointestinal disorders, liver disease, skin disorders, and immune system damage. Plaintiffs further alleged that they suffered from increased risk of incurring disease in the future as well as from emotional distress, as a result of their exposure to the chemicals. Plaintiffs also sought compensation for loss in value of their property as well as for long-term medical monitoring "to detect the onset of any symptoms of diseases caused by the chemicals."⁶¹

The District Court assigned the case to a magistrate for the purpose of making findings and recommendations as well as guiding the case through the discovery and pretrial stages. A number of evidentiary hearings were held during 1989 and 1990 to address a variety of motions filed by Litton including several motions for summary judgment on medical causation, increased risk of disease, emotional distress, and nuisance and trespass.⁶² The magistrate granted at least five of plaintiffs' requests for additional time because of the difficulty of putting together sufficient evidence to prove causation.⁶³

have been present in their well water. *Carroll I*, 1990 U.S. Dist. LEXIS 16833, Part I, at 87.

⁶¹*Id.*, Part III, at 3-4.

⁶²*Id.* at 1-2.

⁶³*Id.*, Part I, at 26. One doesn't have to read between the lines of the magistrate's findings and recommendations to ascertain his frustration with plaintiffs attorneys' preparation, or lack thereof, of the case. At one point of the findings and recommendation, the Magistrate noted "the

Plaintiff's based much of their case around the testimony of a biochemist who testified concerning past levels of chemicals in plaintiffs' wells. The biochemist stated TCE has a characteristic half-life (a period of time in which TCE in an aquifer supposedly degrades to one half of its original concentration) of about one-and-one-half years. By back-calculating from an assumed, not measured, concentration of 108 parts per billion (ppb) in one of the plaintiff's wells in 1986, the expert calculated that the level of TCE in the well was 27,591 ppb in 1970.⁶⁴ The biochemist admitted, however, that he was not aware of any scientific literature that even describes this procedure and stated it was fair to characterize his calculations as "speculative." The magistrate then recommended this testimony be excluded.⁶⁵

discovery burdens of which plaintiffs' counsel complains are of their own creation through failure to prepare properly the extensive claims presented to this court." The magistrate also noted that one of plaintiffs' attorneys indicated she was not prepared because she had been working on other cases, and that plaintiffs attorneys had failed to initiate any of their own discovery until near the end of the initial discovery period. When discussing plaintiffs request for an extension of discovery for the purpose of developing evidence of causation, the magistrate commented that "One would have expected such information to exist in accessible and identifiable form prior to filing of the complaint." The magistrate further noted that, on September 27, 1989, one plaintiffs' counsel admitted in open court that she had done virtually nothing to prepare for this litigation prior to filing suit. Nonetheless, (in an apparent overabundance of caution) the magistrate seemed to bend over backwards to allow plaintiffs additional time to prepare their case. The magistrate ultimately recommended to the district court that, in the event the plaintiffs' claims were dismissed, it impose sanctions under Rule 11 of the Federal Rules of Civil Procedure against plaintiffs' counsel in the amount of Litton's costs in deposing experts previously named by plaintiffs and later withdrawn when plaintiffs named new experts to appear in the action.

⁶⁴*Id.* at 21-2.

⁶⁵*Id.* at 39.

The magistrate also made findings and recommendations on defendant's motion for summary judgment on the main issue of whether or not plaintiffs had suffered physical injury as a result of alleged exposures to the chemicals at issue.⁶⁶ Plaintiffs' medical experts testified that all but one plaintiff had experienced a combination of the following health problems as the result of being exposed to chemicals in their wells: nervous system disorders including numbness and tingling, memory deficits, dizziness, fatigue, weakness, depression, headaches, heart palpitations, impaired vision, skin rashes, respiratory disorders, intestinal disorders, and immune system disorders. Because these experts had based their opinions on the chemical fate (half-life) calculations of the plaintiffs' biochemist, as well as the assumed chemical levels, the magistrate recommended their testimony be excluded as well.⁶⁷

Following the magistrate's recommendation, the District Court ruled the expert testimony regarding groundwater flow and chemical fate was inadmissible under Rule 702 of the Federal Rules of Civil Procedure. In the absence of this testimony, the court ruled plaintiffs could not satisfy the elements of their case pertaining to the plaintiffs' exposure to Litton's chemicals. The court also noted that, even if it deemed this expert testimony was admissible, plaintiffs were

⁶⁶*Id.* at 131. In addressing this motion the magistrate discussed the elements of proof necessary to establish a *prima facie* case: (1) the defendant released the complained of chemicals into the environment; (2) the chemicals migrated into the groundwater and then into the plaintiffs' wells; (3) the plaintiffs ingested the chemicals; (4) there was injury; and (5) the ingested chemicals caused the injuries.

⁶⁷*Id.* at 136.

unable to produce sufficient admissible testimony concerning medical causation. The District Court then granted all of Litton's motions for summary judgment.⁶⁸

Twenty-two of the plaintiffs appealed the case. The Court of Appeals affirmed the District Court's decision to exclude the chemical fate and transport testimony of plaintiffs' biochemist and hydrologist, as well as the physicians' opinions that plaintiffs' health problems were caused by Litton's TCE. Nevertheless, it reversed the District Court's decision granting summary judgment on the plaintiffs' personal injury claims, with the exception of the one plaintiff who had experienced no health problems associated with TCE exposure, and remanded the case for further proceedings. The Court stated that, although the chemical fate and transport evidence should be excluded, a reasonable jury could consider other evidence that indicated: 1) Litton used TCE in its plant from 1967 until 1974; 2) the TCE found in the residential wells originated in Litton's plant;⁶⁹ and 3) the types of health problems experience by the plaintiffs were consistent with exposure to TCE. From this evidence, the court concluded a jury could "infer" that the plaintiffs' health problems were caused by Litton's TCE.⁷⁰

⁶⁸*Id.* at 84. For various enumerated reasons, the court also ruled against plaintiffs' on their claims for costs of medical monitoring, increased risk of disease, fear of future disease, nuisance, and the claims brought under CERCLA and RCRA.

⁶⁹Litton had conceded, apparently for purposes of its motion for summary judgment, that the TCE found in the residential wells had originated from its plant. The Fourth Circuit Court of Appeals indicated that "if Litton [was] able to retract this concession at some later point in the litigation, summary judgment on these claims may be proper." *Carroll II*, 1995 U.S. App. LEXIS 2015, at 5.

⁷⁰*Carroll II*, 1995 U.S. App. LEXIS 2015, at 16-17. The Fourth Circuit Court of Appeals also reversed the District Court's decision granting summary judgment on plaintiffs' nuisance

Following the decision of the court of appeals, Litton applied for and was denied certiorari by the United States Supreme Court.⁷¹ Plaintiffs subsequently refiled their case and were scheduled to go trial before a jury in January 1996. Immediately prior to trial, Litton settled the case with all the plaintiffs. The terms of the settlement remain confidential.⁷²

C. CASE EXPENSES

In presenting its case on the motions for summary judgment, the plaintiffs presented testimony, live and in the form of affidavits, from the following types of experts: a hydrogeologist, a biochemist, three expert witnesses on the issue of medical causation;⁷³ two neurologists, one certified in electro diagnostic medicine; a pediatrician; a psychiatrist; and a psychologist. Plaintiffs were also examined by numerous physicians, including more than 120 treating physicians (some of whom were consulted specifically as a result of plaintiffs' alleged exposure) and independent medical examiners pursuant to court order.⁷⁴ Case expenses and

and trespass claims with respect to those plaintiff's who had a possessory interest in the wells in which TCE was detected.

⁷¹*Carroll III*, 116 S.Ct. 70.

⁷²Telephone Interview with Donna K. Holt, plaintiffs' trial attorney in *Carroll*, (May 15, 1997). According to Ms. Holt, the plaintiffs were generally satisfied with their individual settlements.

⁷³*Carroll I*, 1990 U.S. Dist. LEXIS 16833, Part I, at 9.

⁷⁴Not one of the examining physicians testified that any of plaintiffs' physical complaints were related to the alleged exposure to chemicals. *Id.* at 50.

expert witness fees totaled approximately \$400,000.⁷⁵ These expenses will be discussed further in section VIII of this paper.

V. STERLING V. VELSICOL⁷⁶

A. BACKGROUND

In August of 1964, the Velsicol Chemical Corporation (Velsicol), acquired a 242 acre tract of land in Hardeman County, near Toone, Tennessee, and began using the site as a landfill for wastes from the production of pesticides at its Memphis, Tennessee, chemical manufacturing facility. At the height of its operation, the landfill covered 40 acres of the site. Velsicol deposited a total of 300,000 55-gallon steel drums liquid chemical waste and hundreds of fiber board cartons containing dry chemical waste into the landfill. The drums and cartons containing the chemicals were deposited in 15 feet deep/12 to 15 feet wide trenches after which they were covered with approximately 3 feet of soil. Velsicol took no precautions to insure the drums would not burst and leak their contents into the soil and the trenches had no lining to prevent chemical waste from leaching into the soil.⁷⁷

⁷⁵Telephone Interview with Donna K. Holt, plaintiffs' trial attorney in *Carroll* (May 15, 1997).

⁷⁶Additional details of the underlying litigation are laid out in the opinions generated by the case. See *Sterling v. Velsicol*, 647 F. Supp. 303 (W.D. Tenn 1986)[*Sterling I*]; *Sterling v. Velsicol*, 855 F.2d 1188 (6th Cir 1988)[*Sterling II*].

⁷⁷*Id.*, *Sterling I*, at 360-61.

In 1967, the United States Geological Survey (USGS), performed studies in the area to determine the likelihood of contamination from the landfill. The first of several USGS reports indicated chlorinated hydrocarbons had migrated down into the subsoil and had contaminated portions of the surface and subsurface environment in the area around the disposal site. Although the USGS concluded both the local and contiguous ground water were in danger of contamination, they also indicated that, even if the contamination reached the local aquifer, there was no danger of contamination to existing domestic wells because the water in the aquifer was moving in an easterly direction and the residential area was located to the west of the landfill. By 1972, however, the state became increasingly concerned about groundwater contamination in the area and ordered Velsicol to close the landfill; the landfill was closed in June 1973.⁷⁸

In 1976, the USGS began updating its 1967 report due to concern that chemicals from the landfill might be migrating towards the wells used by local residents. The USGS issued a report in 1978 which indicated the water table of the local aquifer was highly contaminated and that water in the aquifer moved toward the northwest, north, and northeast, towards a residential area, rather than toward the east as indicated in the 1967 USGS report. When residents complained of polluted well water, nausea, skin diseases and other disorders in the spring of 1978, investigators suspected seepage from the site. In response to the complaints, the Tennessee Department of Health, USGS, the EPA, and Velsicol all commenced numerous extensive ground water surveys

⁷⁸*Id.*, *Sterling II*, at 1193.

of the site and surrounding area. The surveys indicated fifteen drinking water wells in the area were contaminated with high levels of chlorinated hydrocarbons, including carbon tetrachloride and chloroform. All residents in a 1,000 acre area around the landfill were then advised to stop using their wells.⁷⁹

B. LITIGATION

In 1978, the plaintiffs, forty-two persons who owned property or lived within a three mile radius of the northern boundary of the landfill, filed separate lawsuits against Velsicol in the Circuit Court of Hardeman County, Tennessee, seeking \$1 billion in compensatory damages and \$1.5 billion in punitive damages. Velsicol removed the case to the United States District Court for the Western District of Tennessee. Following the removal, twenty-seven of the original plaintiffs settled their cases against Velsicol for undisclosed sums.⁸⁰ Plaintiffs then amended

⁷⁹*Id.*

⁸⁰See *Victim Compensation: Paying for the Damage Caused by Toxic Wastes*, CHEMICAL WEEK, March 9, 1983, at 32:

The case is proceeding amid a miasma of ill will. Wilder [one of plaintiff's attorneys] calls Velsicol's settlement attempts "unethical and inequitable," while Blewitt [one of Velsicol's attorneys] charges Wilder with "unprofessional tactics." Specifically, Wilder says that Velsicol offered as little as \$250 for contaminated property and never more than \$10,000 to any individual family. Further, he charges that the company used pressure tactics to have its settlement accepted.

"Some of these people didn't have attorneys present when they negotiated with Velsicol, and the company told them that it would stop talking if they did contact us," Wilder states. "A few families

their complaint and added an additional forty-seven plaintiffs. The complaint sought relief for involuntary exposure to various chemicals, including benzene, chlorobenzene, toluene, carbon tetrachloride, and chloroform. The plaintiffs alleged the substances were known to cause cancer, affect the central nervous system, and permanently damage other organs of the human body. The complaint also sought compensation for loss of value to the plaintiff's property and claimed Velsicol negligently disposed of toxic chemical wastes on its property.⁸¹

Before trial, the district court judge, on its own motion, certified a class action⁸² and ordered the separate lawsuits consolidated. The judge then directed plaintiffs' counsel to designate five representative plaintiffs whose cases would be tried to establish Velsicol's liability and damages on the individual claims, liability to the entire class, and for punitive damages to the entire class, if any.⁸³

In 1986, eight years after plaintiffs filed suit, the five selected claims were litigated in a 65-day bench trial after which the district court judge found Velsicol liable to the plaintiffs under the legal theories of strict liability, common law negligence, trespass, and nuisance. The district court awarded the five representative individuals compensatory damages totaling \$5,273, 492.50,

fired us, thinking it was their only chance of getting anything." Says Blewitt: "We'll do our talking in the judicial system and let the outcome speak for itself."

⁸¹*Sterling II*, 855 F.2d at 1188.

⁸²Fed. R. Civ. P. 23(b)(3).

as well as prejudgement interest in the amount of \$8,964,973.25 to be computed from July 1965.

Compensatory damages were awarded primarily for personal injuries to include: increased risk and fear of contracting cancer and other diseases, learning disabilities, post-traumatic stress disorder, impaired quality of life, and for lost wages and earning capacity related to cancer and other illnesses. The district court also awarded punitive damages of \$7.5 million to be paid to the class as a whole.⁸⁴ The total award for plaintiffs at the end of the trial was \$14,238,465.75.

In August, 1988, in a 53-page opinion, the U.S. Court of Appeals for the Sixth Circuit generally affirmed the findings of the lower court. However, it rejected most of the legal theories on which the lower court awarded damages to the plaintiffs and reversed monetary awards for prejudgment interest, increased susceptibility to cancer and other diseases, immune system impairment, learning disabilities, post-traumatic stress disorder, impaired quality of life, and for lost wages and earning capacity. The three-judge panel also reduced the individual awards for increased fear of cancer and remanded the case to the District court for recalculation of the awards for specific injuries and as well as punitive damages. This left only \$1.2 million of the original judgment intact.⁸⁵ Almost immediately following the appeal, and more than 12 years after plaintiffs filed their initial action, Velsicol settled the entire class action for a reported \$10

⁸³Sterling I, 647 F. Supp. at 303-4.

⁸⁴*Id.* at 307. Although the USGS, EPA, and Velsicol did not detect widespread contamination in the well water of local residents living near the landfill until 1976, evidence presented at the trial indicated pesticides had been detected in plaintiff Sterling's well as early as 1965.

⁸⁵*Sterling II*, 855 F.2d 1188 .

million.⁸⁶

C. CASE EXPENSES

Plaintiffs employed more than a dozen witnesses in presenting their case. These included: a hydrologist, three specialists in environmental health who testified regarding the operation of landfills; a number physicians, including the plaintiffs' treating physicians, a neuroophthamologist, an immunologist, and a pediatrician; and a real estate appraiser.⁸⁷ All total plaintiffs spent approximately \$1 million in case and expert witness fees.⁸⁸ These expenses will be discussed further in section VIII of this paper.

VI. WOODMAN V. UNITED STATES⁸⁹

⁸⁶Christian Robb, *Two Scientists Track the Citizen Sleuths Who Practice Popular Epidemiology*, BOSTON GLOBE, Dec. 21, 1990, at 59 (reviewing PHIL BROWN AND EDWIN J. MIKKELSON, NO SAFE PLACE - TOXIC WASTE AND COMMUNITY ACTION (1990)).

⁸⁷*Sterling I*, 647 F. Supp 303. In addition to the specific experts described in the district court's opinion, the Court of Appeals stated the expert testimony and evidence the district court relied on consisted of "treating physicians, medical specialists, scientists, psychiatrists, clinical psychologists, engineers, hydrologists, . . . numerous studies, and extensive literature." *Sterling II*, 855 F.2d at 1199.

⁸⁸Holt, *supra* note 75. In addition to being a trial attorney in *Carroll*, Ms. Holt worked on several issues dealing with Sterling while she was a member of plaintiffs' attorneys' law firm, Gilreath & Associates, of Knoxville, Tennessee.

⁸⁹Details of the underlying litigation are laid out in the opinions generated by the case. *Woodman v. United States*, 764 F. Supp. 1455 (M.D. Fla. 1991)[*Woodman I*]; *Woodman v. United States*, 764 F. Supp. 1467 (M.D. Fla. 1991)[*Woodman II*]; *Woodman v. United States*, No. 87-116-Civ-J-14(PHM), 1995 U.S. Dist. LEXIS 2787 (M.D. Fla. 1995)[*Woodman III*].

A. BACKGROUND

In 1966, the Navy contracted with Waste Control of Florida, Inc. (Waste Control), to dispose of wastes from its aircraft maintenance facilities at the two Naval Air Stations, near Jacksonville, Florida. These wastes were primarily industrial solvents and chlorinated hydrocarbons.⁹⁰

Among the landfills which Waste Control owned and operated during the time of the contract was the Hipps Road Landfill, located in southwest Jacksonville, Florida. This facility opened between April and July of 1968, and occupied approximately seven acres in what was once a cypress swamp. Waste Control disposed of the waste it collected from the Navy primarily at this landfill. The landfill used the “trench-and-fill” method in which unlined trenches 10 to 20 feet deep, 30 feet long and 20 feet wide were dug and then filled with waste and covered with about three feet of soil. Because the water table was so high in the area, the landfill had to pump water constantly while the trenches were open to keep them from filling with water; local county regulations prohibited water in landfill trenches.⁹¹ In late 1969, after its capacity had been reached, Waste Control closed and capped the landfill leaving the wastes in place.⁹²

⁹⁰*Id.*, *Woodman III*, 1995 U.S. Dist. LEXIS 2787 at 24.

⁹¹*Id.* at 10.

⁹²*Id.*, *Woodman I*, 764 F. Supp. at 1456.

During the mid-seventies, a number of residents in the area began experiencing illnesses - diarrhea, headaches, and rashes - which they attributed to the water. The Jacksonville health department checked the wells for bacteria on a number of occasions but the results were always negative. Additional tests for hydrocarbons, pesticides, and weed killers in 1981 also were negative. Then, during February through May of 1983, more than thirteen years after the landfill had been closed, groundwater testing of property adjacent to the landfill revealed the aquifer was contaminated with solvents and chlorinated hydrocarbons, most of which were the type the Navy had sent to the landfill. Tests of 30 local residential wells indicated the presence of some 60 chemicals including high levels of benzene, chlorobenzene, toluene, TCE, and vinyl chloride, some with levels 9,250 times higher than federal safety limits for drinking water.⁹³

On November 7, 1983, the City of Jacksonville declared a water pollution emergency and began providing bottled water to about 60 of the homes with badly contaminated wells; they did so until 1984 when the city hooked the residences up to the Jacksonville water system. Other homes where water was contaminated but within safe drinking limits were not connected at this time. Because the residents could not afford to pay for the installation of city water pipes, they either purchased bottled water for consumption or continued to drink the partially tainted water while the contamination kept spreading to more wells in the neighborhood.⁹⁴ In 1989, Waste Control purchased five of the contaminated residential properties for a total cost of \$530,000, and

⁹³John J. Glisch, *Poisoning Florida: The Hipps Road Case An Environmental War Zone*, ORLANDO SENTINEL, Feb. 2, 1992, at A1.

⁹⁴*Id.*

entered into a well abandonment program before capping the Landfill.⁹⁵

B. LITIGATION

In February 1987, 171 plaintiffs, comprising 53 families living in the area surrounding the dump, filed a single action against the United States, Waste Control, and Waste Management, Inc. (Waste Control's parent corporation), alleging the defendants had unlawfully contaminated their water which they used for domestic purposes and that the contamination caused various illnesses to the plaintiffs.⁹⁶ The plaintiffs filed an amended complaint on September 5, 1989 in which they alleged additional mental and physical injuries and claimed for damages resulting from the reduction in value to their property.⁹⁷ The total amount of damages claimed by plaintiffs was \$463 million.⁹⁸ On August 13, 1990, the District Court decided the case was "unwieldy" and ordered the action be divided by families, with each family being assigned a new case number. The Woodman case was then scheduled as the first to go to trial in April 1991 but

⁹⁵ *Id.*; *Woodman I*, 764 F. Supp. at 1456.

⁹⁶ *Woodman III*, 1995 U.S. Dist. LEXIS 2787 at 6. Jurisdiction against the United states was under the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b) and 2671-2680 and CERCLA, 42 U.S.C. § 960(a). Jurisdiction against Waste Control and Waste Management was under CERCLA and pendent jurisdiction over plaintiffs' common law state claims of negligence, trespass, nuisance, strict liability, failure to warn, and liability for response costs and attorneys' fees under CERCLA.

⁹⁷ *Woodman I*, 764 F. Supp. at 1457.

⁹⁸ John J. Glisch, *Residents Face Uphill Fight in Pollution Suits*, ORLANDO SENTINEL, Feb. 3, 1992, at A1.

was later continued until January 6, 1992.⁹⁹

Immediately prior to trial, all of the plaintiffs settled their claims against Waste Control and Waste Management for \$8.5 million,¹⁰⁰ and the court entered judgments dismissing the claims against them. According to the terms of the settlement, \$2.5 million was to be allocated among the 171 plaintiffs in equal amounts of \$14,619.88, \$2 million was to be allocated to the 171 plaintiffs by an independent master, \$500,000 was to be paid into a medical monitoring fund to be allocated to each plaintiff by the master, \$1 million was to pay for past and future costs and expenses of the litigation, and \$2.5 million was for attorneys' fees.¹⁰¹

On January 6, 1992, the cases finally went to trial against the United States without a jury. Altogether 195 witnesses testified in open court, another 30 by deposition, and more than 200 exhibits were received in evidence in a five-phase trial which was held over a period of more than two years.¹⁰² After both the first and second phases of the case, the trial judge issued oral

⁹⁹Woodman III, 1995 U.S. Dist. LEXIS 2787 at 7.

¹⁰⁰*Id.*

¹⁰¹*Id.* The \$2.5 million in attorneys' fees represented a one-third contingency fee of the final settlement less the \$1 million in expenses and expert witness fees.

¹⁰²*Id.* The phases addressed the following: First Phase - Whether plaintiffs' wells were contaminated as well as the sources of contamination; Second Phase - Whether the level of toxic contamination was sufficient to cause injury and the injury claims of 12 individual plaintiffs; Third Phase - The need for and cost of medical monitoring; Fourth Phase - The location of the residences of all 171 plaintiffs and their water consumption; and Fifth Phase (held in March 1994) - to address the death of Yvonne Elizabeth Woodman who died of cancer diagnosed subsequent to the second phase.

opinions generally favorable to the plaintiffs.¹⁰³

On January 24, 1995 the court dismissed the cases of 83 plaintiffs because the judge found they did not live within the toxic plume and the water was not contaminated) and entered an award for 12 plaintiffs in the amount of 1.7 million, \$1.4 million to be paid to one plaintiff for his own injuries and as personal representative of his wife's (a deceased plaintiff) estate. The remaining \$300,000 was ordered distributed in various amounts to the other 10 plaintiffs. The court also noted that issues still remained to be decided in pending cases of the remaining 76 plaintiffs who lived within the toxic plume.¹⁰⁴ The Navy has appealed the case; arguments are set for June 1997 before the Eleventh Circuit Court of Appeals.¹⁰⁵

C. CASE EXPENSES

Plaintiffs' legal fees approached \$1 million even before the trial began and eventually totaled slightly over \$1 million.¹⁰⁶ The first phase of building the case took plaintiffs three years. During this time attorneys spoke with residents, studied voluminous medical records and

¹⁰³ *Id.* The judge indicated in the opinion that he hoped his rulings would "stimulate a settlement between the plaintiffs and the United States."

¹⁰⁴ *Woodman III*, 1995 U.S. Dist. LEXIS 2787 at 42-3; *See also Possible Legal Precedent Goes Against Feds*, GREENWIRE, Feb. 1, 1995.

¹⁰⁵ Interview with Harold Lippes, plaintiffs' trial attorney in *Woodman* (May 16, 1997).

¹⁰⁶ *Id.*; *see also* John J. Glisch, *An Environmental War Zone: The Legal Battles*, ORLANDO SENTINEL, Feb. 3, 1992, at A1.

interviewed about 60 physicians to determine what illnesses might have been caused by the contamination. Depositions were quite lengthy and there were dozens of pretrial motions which required weeks of research.¹⁰⁷

Plaintiffs called a number of experts during the trial to include plaintiffs' personal physicians, a hydrologist, an epidemiologist, a toxicologist, an expert in chemical exposure and industrial disease, a neuropsychologist, two occupational and environmental medicine specialists. The plaintiff's trial expenses will be discussed further in section VIII of this paper.

According to the opinions associated with the case, the Navy's expert witness and other expenses were also about \$1 million;¹⁰⁸ they paid about \$500,000 to one firm alone for hydrological analysis and testimony and for analysis of photographs of the site.¹⁰⁹ Harold Lippes, one of plaintiffs' attorneys indicated the Navy has spent far in excess of \$2 million in defending the case.¹¹⁰

¹⁰⁷ *Id.*, Glisch.

¹⁰⁸ *Woodman III*, 1995 U.S. Dist. LEXIS 2787 at 33. The court indicated \$2 million was spent on expert witness fees in the case. Glish, indicated that plaintiffs spent \$1 million before trial so I am assuming defendants spent \$1 million as well, for a total of \$2 million spent between both sides. *Id.*, Glisch.

¹⁰⁹ *Id.* at 15. This amount is comparable to the \$598,484.76 plaintiffs in *Anderson* paid for similar testing and analysis. *See supra* note 32 and accompanying text.

¹¹⁰ Interview with Harold Lippes, plaintiffs' trial attorney in *Woodman* (May 16, 1997). Mr. Lippes obtained this information through discovery.

As a side note, following the settlement with Waste Control and Waste Management, an additional 200 residents in the area began pursuing similar actions. Most of these residents lived further away from the dump than the original plaintiffs.¹¹¹ Eventually, 671 residents joined in the action and, in February 1996, Waste Management settled all the claims against them for a reported \$18.25 million, \$250,000 of which was set aside for connecting the homes in the neighborhood to municipal water lines.¹¹²

VIII. POTTER v. FIRESTONE TIRE AND RUBBER CO.¹¹³

A. FACTS

From 1963 until 1980, the Firestone Tire and Rubber Company (Firestone) operated a tire manufacturing plant near Salinas, California. In 1967, Firestone contracted with Salinas Disposal Service (SDS) and Rural Disposal, two refuse companies that operated the Crazy Horse landfill (Crazy Horse), for disposal of its industrial wastes. At this time, SDS informed Firestone that no solvents, cleaning fluids, oils, or liquids were permitted at Crazy

¹¹¹John J. Glisch, *An Environmental War Zone: The Legal Battles*, ORLANDO SENTINEL, Feb. 3, 1992, at A1.

¹¹²*Neighbors of Polluted Jacksonville Landfill to Share \$18 Million*, ORLANDO SENTINEL, Feb. 11, 1996, at B3.

¹¹³The details of the underlying litigation are laid out in the opinions generated by the case. See *Potter v. Firestone Tire and Rubber Co.*, 274 Cal. Rptr. 885 (Cal. App. 4th 1990)[*Potter I*]; *Potter v. Firestone Tire and Rubber Co.*, 274 Cal. Rptr. 885 (Cal. 1993)[*Potter II*].

Horse because of the danger that they might leach into the groundwater and cause contamination. SDS further indicated such types of waste had to be sent to a Class I waste disposal facility. Crazy Horse was a Class II facility that covered approximately 125 acres of land.¹¹⁴

Despite SDS's instructions, Firestone sent large quantities of liquid waste to Crazy Horse, including waste oils and various solvents. In 1977, the Firestone plant engineer, who was in charge of environmental matters, sent a memorandum to all plant managers and department heads regarding the proper method by which to dispose of liquid wastes. Firestone initially made efforts to dispose of the materials properly at a Class I disposal facility but began accumulating more waste than had been anticipated and the disposal proved costly. Eventually, noncompliance with proper disposal procedures once again became widespread and the engineer sent a memorandum pointing out the lack of compliance with California law. The plant production manager during this time had been sent in from Firestone company headquarters in Akron, Ohio to "turn the plant around." He became angered over the costs of waste disposal and ordered the program discontinued and all wastes sent to Crazy Horse.¹¹⁵

The plaintiffs, Frank and Shirley Potter, and Joseph and Linda Plescia, lived on property adjacent to Crazy Horse. In 1984, they discovered a number of chemicals in their water wells which were used for domestic purposes. The list of chemicals included: toluene; chloroform;

¹¹⁴*Id.*, *Potter I*, 274 Cal. Rptr. at 887.

¹¹⁵*Id.* at 887-8.

TCE; trichloroethane; and vinyl chloride.¹¹⁶

B. LITIGATION

In 1985, plaintiffs filed separate suits against Firestone for damages and declaratory relief. Their complaints against Firestone stated causes of action for, negligence, negligent and intentional infliction of emotional distress, and strict liability for an ultra hazardous activity. In July 1988, after a 67-day bench trial dominated by expert testimony, the judge found Firestone was negligent, that negligent and intentional infliction of emotional distress were established, and that Firestone's conduct was an ultra hazardous activity that would subject Firestone to strict liability for the resulting damages. He then entered a judgment in favor of plaintiffs.¹¹⁷

It was uncontested that the plaintiffs drank the water from their wells; however, none of the plaintiffs had cancer before or at the time of trial, nor did they have a diagnosed precancerous condition. Although plaintiffs testified at trial regarding an array of physical symptoms that they attributed to Firestone's chemicals, the trial judge concluded the evidence did not establish with sufficient certainty that those symptoms were caused by the contaminated water. The court did, however, conclude the plaintiffs' increased susceptibility to cancer was a "presently existing

¹¹⁶*Id.* at 888.

¹¹⁷*Id.* at 899.

physical condition" for which they could receive an award.¹¹⁸

The trial court also concluded Firestone was liable for intentional infliction of emotional distress and that the 1977 memorandum detailing how liquid wastes should be disposed reflected Firestone's increased knowledge at that time about the dangers of toxic waste. Given the evidence regarding this memorandum and the fact that the memorandum represented Firestone's official waste disposal policy, the court concluded that Firestone's decision to dump its waste at Crazy Horse in violation of that policy in order to reduce costs was extreme and outrageous conduct. Finally, the trial court determined that the dumping of large amounts of toxic wastes in a class II landfill constituted an ultra hazardous activity.¹¹⁹

The court then awarded plaintiffs the following damages: \$200,000.00 each for their lifelong fear of cancer and resultant emotional distress; \$142,975 for periodic medical monitoring based on anticipated life spans of the plaintiffs; a total of \$269,500 for psychiatric illness and the cost of treating such illness; \$108,100 for the general disruption of their lives and the invasion of their privacy (including lost wages); \$2.6 million in punitive damages based on Firestone's conscious disregard for the rights and safety of others in dumping its toxic wastes at the landfill after 1977; \$407,785.95 in expert witness costs; and \$ 468,091.44 in prejudgment interest. This resulted in a

¹¹⁸*Id.* at 890; *See also Will 'Environmental Anxiety' Claims Strike Out?; California Court Poised to Review Award Based Solely on Fear of Cancer*, N.J. L.J. 11 (Mar. 9, 1992).

¹¹⁹*Id.*, *Potter I*, 274 Cal. Rptr. at 888.

total award of \$4,796,452.39.¹²⁰

On November 15, 1990, the California Court of Appeals reversed the awards for medical monitoring costs, as well as a postjudgment order directing Firestone to pay for the costs of expert witnesses and prejudgment interest, but otherwise affirmed the judgment.¹²¹ This reduced the plaintiffs' original award by \$1,018,852.39 leaving them with \$3,777.607.

On December 27, 1993, the California Supreme Court reversed and remanded the Court of Appeals' decision affirming the trial court's award for fear of cancer holding that, because plaintiffs had not demonstrated a current physical injury, they had not met their burden of proving it was more likely than not that the feared cancer would develop in the future as a result of the toxic exposure. The court stated that, as a general rule, allowing recovery without requiring any further showing of the actual likelihood of the feared cancer "provides no protection against unreasonable claims based upon wholly speculative fears. The court also

¹²⁰*Potter II*, 863 P.2d at 802. The award for psychiatric illnesses was based on various psychological problems which were different from the plaintiffs' fear that they might develop cancer, such as posttraumatic stress disorders, sleep disorders, and other anxieties and difficulties.

¹²¹*Potter I*, 274 Cal. Rptr. at 899. Before trial, plaintiffs made a joint settlement offer of \$2 million which the defendants turned down. California Code of Civil Procedure section 998 allows a prevailing party to recover expert witness fees in cases where a plaintiff's settlement offer is not accepted and the defendant subsequently fails to obtain a more favorable judgment. Additionally a court, under California Civil Code section 3291, may award prejudgment interest where plaintiffs receive a more favorable judgment than an amount offered by the plaintiffs to settle the case. The appeals court indicated that, because the settlement offer was a single joint offer rather than individual offers from each plaintiff, it was impossible to determine whether or not each party had received a more favorable judgment so neither rule applied.

reversed and remanded the Court of Appeals' decision regarding punitive damages.¹²²

On the plus side for the plaintiffs, the California Supreme Court reversed the Court of Appeals' decision denying plaintiffs future medical monitoring expenses. Thus, the plaintiffs were left with the following award: \$142,975 for periodic medical monitoring based on anticipated life spans of the plaintiffs; \$269,500 for psychiatric illness and the cost of treating such illness; and \$108,100 for the general disruption of their lives and the invasion of their privacy. The total award from the California Supreme Court was \$520,575; a reduction of \$4,275,575 from the original trial court award of \$4,796,452.39.¹²³ In September 1994, Firestone settled the case with all the plaintiffs. This was nine years after the original lawsuit was filed and 10 years after the discovery of the contamination.¹²⁴ Although the precise terms of the settlement are confidential, plaintiffs apparently received "substantially the same amounts" they had received from the trial court.¹²⁵

C. CASE EXPENSES

Plaintiffs called a wide array of expert witnesses to prove up their case; they spent a total

¹²² *Potter II*, 863 P.2d at 810.

¹²³ *Id.*

¹²⁴ Telephone interview with Richard Amerian, appellate attorney in *Potter* (May 15, 1997).

¹²⁵ Telephone interview with Robert K. Crawford, trial attorney in *Potter* (May 16, 1997).

of \$407,785.95 in expert witness fees. With respect to proving Firestone's chemicals had entered the plaintiff's homes through their wells, plaintiffs employed the services of: an experts on soil and gas; a contaminant hydrogeologist; a professor of hydrology from the University of Berkeley; a Ph.D. in gas physics; an expert in mass spectrometry; and an expert in the interpretation of aerial photographs. On the medical side, plaintiffs called: the plaintiffs' personal physicians; a medical toxicologist; a neuropsychologist; a psychiatrist; an occupational environmental specialist; an immunologist; an oncologist; an expert in chemical carcinogenesis from the National Cancer Institute; and a toxicologist with special expertise in benzene. With case fees, plaintiffs spent approximately \$600,000 on the case.¹²⁶ These expenses will be discussed further in section VIII of this paper.

VIII. DISCUSSION AND ANALYSIS

A. DURATION OF CONTAMINATION

A review of the cases indicates the defendants' acts of contributing to the resulting contamination generally continued over fairly lengthy periods of time at an average of about 13 years. (See Table 1 below). Lengthy duration of contamination on the part of defendants in these types of cases should be an aggravating factor with respect to damages, particularly if the defendants knew or had reason to know of their poor disposal practices yet did not alter their conduct appropriately as in *Potter*. In arriving at the 13-year figure I excluded *Anderson* because

¹²⁶*Id.*

the long history of industries in the area of town in which the drinking water wells were located made it difficult, if not impossible, to determine the duration of contamination;¹²⁷ the contamination in that case likely went on for years and years and to choose dates of contamination “out of the air” might skew the result. This is not to say contamination occurring over a long period of time is unheard of in other groundwater contamination cases. Only that, with respect to the other five cases reviewed, each had fairly definite dates which could be pinpointed by such things as looking at the date a hazardous waste dump was opened and closed, the dates of a contract for disposal, or the date a factory or production facility was built.

¹²⁷In addition to having difficulty pinpointing the time or duration of contamination, because there were a number of industries located in the area, plaintiffs had difficulty establishing which industry or industries had caused the contamination.

Duration Of Contamination¹²⁸

Table 1

Case	Years
Anderson	Unknown
Renaud	29
Carroll	7
Sterling.....	9
Woodman.....	1.5
<u>Potter</u>	<u>17</u>
Average	12.7

Although the length of time that a company directly contributed to the contamination might give some indication with respect to the severity and extent of contamination, this may not necessarily be the case. For instance, in *Woodman*, although the Navy's wastes were sent to the Hipps Road dump during a one-and-one half year period, the chemicals were actually released from the dump over a long period of time as the barrels of chemicals rusted and their contents

¹²⁸These figures refer to the amount of time a party or parties took an active role in the pollution process (dumping or discharging), not the period of time in which the plaintiffs were exposed to the pollution. In both *Sterling* and *Woodman* the defendants' pollutants were not discovered in plaintiffs' wells until several years after the waste dumps in question were closed so it would be difficult to determine exactly when the pollutants reached the plaintiffs. *See supra* notes 77-79 & 90-95 and accompanying text. In *Anderson*, the contamination went on for many years but only reached the plaintiffs on and off during the 15-year period in which Wells G and H were open. While it is possible to derive specific exposure dates, the dates don't explain the full extent of contamination. *See supra* notes 9-23 and accompanying text.

leaked into the ground resulting in extensive contamination to the local underground water system. Therefore, to ascertain the true extent of contamination, you need to look beyond the period of active dumping or polluting. Factors such as the type of chemicals involved, the method of disposal, and the local geologic and hydrologic conditions will lead to varying results.

A review of the EPA's National Priority List, which it publishes on a regular basis in the Federal Register, might also provide a sense of the extent of the contamination in these cases.¹²⁹ Of the six cases studies, the sites in question in *Anderson, Sterling, Woodman, and Potter* are currently listed.¹³⁰ This, however does not explain the full picture with respect to the severity of the contamination problems in the two sites not listed by EPA. For instance, while Litton's property, as described in *Carroll*, is not listed as a Superfund site, after detecting the contamination in 1986, Litton entered into an administrative consent order with the EPA under which long-term remedial actions were undertaken. These actions continued up until at least October 1990 when the District Court issued its opinion and decision¹³¹ and are likely continuing today. Although the property in *Renaud* does not appear on the Superfund list, in 1990, the EPA approved Martin's plan to clean up the contaminated soil and groundwater at its 5,200 acre plant at an estimated cost of \$59 million. The plan will involve the incineration of contaminated soil

¹²⁹The National Priorities List is EPA's list of sites identified for possible or current remediation under CERCLA. PERCIVAL, *supra* note 9, at 1411.

¹³⁰National Priorities List for Uncontrolled Hazardous Waste Sites, 61 FR 67656 (1996). According to HARR, *supra* note 3, at 491, remediation of Woburn Site alone will cost an estimated \$69.4 million. Both Grace and Beatrice are paying a share of the cleanup costs.

¹³¹*Carroll I*, 1990 U.S. Dist. LEXIS 16833, at 5.

and pumping and treating of groundwater.¹³²

B. LENGTH OF TIME BETWEEN DISCOVERY OF CONTAMINATION TO FINAL VERDICT OR SETTLEMENT

The next area of significance was the period of time from the discovery of the contamination to the final action on the case. For purposes of this analysis I did not include settlements made between plaintiffs who opted out of the cases early on by accepting settlements from one or more defendants. I also did not include those instances where defendants settled their liability early on rather than proceeding with litigation.¹³³ Because *Renaud* was dismissed before trial on a motion for summary judgment, I did not consider it in this analysis as well.¹³⁴

¹³²George, *supra* note 47.

¹³³See *Anderson*, *supra* note 25 (Unifirst settled early on for \$1,000,050); *see also* *Woodman*, *supra* note 100 and accompanying text (Waste Management settled prior to trial for \$8.5 million).

¹³⁴*Renaud II*, 972 F.2d at 308.

Time From Discovery of Contamination to Final Action on Case

Table 2

Case	Years
Anderson	11
Renaud	n/a*
Carroll	10
Sterling	12
Woodman	14**
<u>Potter</u>	<u>10</u>
Average	11.4

* Dismissed on motion for summary judgment.

**Ongoing

These figures indicate that plaintiffs, as well as their attorneys, who decide to pursue a case of this nature are in it for the long-haul; more than 11 years in the case studies. From the six cases, it is readily apparent that discovery alone is a long and arduous process that can take years, both before and after a case has been filed. But prior to even getting that far, plaintiffs must first find an attorney or firm that will take their case. In some cases this may mean getting an “environmentalist” group to take the case, such as The Trial Lawyers for Public Justice who initially assisted with *Anderson*,¹³⁵ but more often than not plaintiffs will be faced with the

¹³⁵HARR, *supra* note 3, at 142.

difficult task of finding a law firm willing to invest the time, energy, and money into the case. This, in and of itself, could prove to be time consuming.

The length of the cases can take its toll on plaintiffs and attorneys as well, including emotional strain and financial difficulties. In *Potter*, following the discovery of the contamination and prior to the trial, one of the two husband and wife plaintiffs experienced marital difficulties and the other husband and wife plaintiffs divorced.¹³⁶ In *Anderson*, as well, at least one husband and wife plaintiff separated while awaiting trial.¹³⁷ While I cannot say for certain from my research what caused these plaintiffs' marital difficulties, the fact that the difficulties occurred is nevertheless evidence that there was some strain in the lives of these couples and the cause of this strain could easily have been the pending litigation. A number of plaintiffs in these cases also experienced financial difficulties as the result of being unable to work¹³⁸ or as a result of high medical bills for the treatment of illnesses caused by the contamination.¹³⁹

Although not made readily apparent from the opinions relating to the six cases, the plaintiffs in *Anderson*, *Woodman*, *Potter*, and *Sterling* appear to be from the lower class to lower middle class income. Any financial difficulties they might have experienced as the result of the

¹³⁶ *Potter I*, 274 Cal. Rptr. at 898.

¹³⁷ HARR, *supra* note 3, at 452.

¹³⁸ *Sterling I*, 764 F. Supp. at 342.

litigation would, therefore, have been amplified that much more. In addition to financial and emotional problems caused by the lengthy litigation process, in a number of cases there were plaintiffs who died during the course of the litigation.¹⁴⁰ This alone could cause numerous emotional problems to survivors as well as exacerbate any existing ones.

Even if plaintiffs can find an attorney to take their case, they are then faced with another time-consuming (as well as expensive) endeavor; marshaling enough evidence to prove causation.¹⁴¹ This hurdle was generally broken down into several parts in each of the case studies. First the plaintiffs had to present sufficient evidence to show the defendant's chemicals had tainted the groundwater. Next, they had to show that the tainted groundwater had made its way into their homes either through their private wells or through the city drinking water system and that the plaintiffs had ingested the tainted water. Finally, the plaintiffs had to demonstrate that the chemicals, in the concentrations they had ingested in their water could cause their illnesses. The attorneys in *Carroll* seemed to have the most difficulty with this task; despite numerous continuances granted to give them time to prepare their case, the trial judge granted the

¹³⁹HARR, *supra* note 3, at 74.

¹⁴⁰See Robb, *supra* note 86; see generally HARR, *supra* note 3, at 316; see also *Woodman III*, 1995 U.S. Dist. LEXIS 2787 at 1.

¹⁴¹For discussions of the problems in proving causation in toxic tort cases, see Rory A. Valas, *Toxic Palsgraf: Proving Causation When the Link Between Conduct and Injury Appears Highly Extraordinary*, 18 B.C. ENVTL. AFF. L. REV. 773 (1991); W. PROSSER & W. KEETON, THE LAW OF TORTS § 41, at 263 (5th ed. 1984); Daniel A. Farber, *Toxic Causation*, 71 MINN. L. Rev. 1219; and Developments in the Law — Toxic Waste Litigation, HARV. L. REV. 1458, 1611 (1986).

defendant's motion for summary judgment. Fortunately for the plaintiffs, the appeals court gave them a second chance and they ended up settling the case before going to trial.

Corporate defendants in particular have a lot at stake financially in these types of cases, not only in terms of paying the immediate claims of the plaintiffs, but for costs of remediation,¹⁴² as well as the effects an adverse judgment might have on their reputation which, in-turn, could adversely affect their standing in the financial community as a whole.¹⁴³ Because of these and many other considerations, in the absence of clear proof that they caused the contamination and illnesses, defendants will generally "pull out all the stops" when fighting these types of cases.¹⁴⁴ In the six case studies, this involved defendants filing numerous motions to dismiss, numerous discovery requests, as well as lengthy and detailed depositions. Additionally, because they often have greater resources from which to draw than plaintiffs (virtually "unlimited" when compared to most plaintiffs' resources), corporate defendants generally have no incentive to rush a case to a trial preferring use all legal avenues available to knock the case out before trial and, in the

¹⁴²See *supra* notes 129-32 and accompanying text.

¹⁴³See *GE Loses Legal Appeal; Stock Falls*, CINCINNATI ENQUIRER, Feb. 28, 1995, at C10 (discussing the \$2.00 drop in General Electric (GE) stock following the Supreme Court's decision denying certiorari in the case *In Re Paoli Railroad Yard* thereby allowing 38 Philadelphia residents to proceed in a suit against GE for contamination of groundwater in a railroad yard in Pennsylvania). *In Re Paoli Railyard*, 35 F.3d 717 (3rd Cir. 1994), *cert. denied* 115 S.Ct. 1253 (1995).

¹⁴⁴See *supra* note 39 and accompanying text (Beatrice and Grace each spent \$7 million in *Anderson*); see also *supra* note 110 and accompanying text (The Navy has spent in excess of \$2 million in *Woodman*).

process, perhaps wear down the “little guy.”¹⁴⁵

Even if they can endure the lengthy process of getting to trial and obtaining a favorable judgment, plaintiffs are faced with the likely prospect of the defendant appealing the case, and thus having to wait additional time to receive any anticipated damages award. This was the case in *Sterling, Woodman, and Potter*. Also, plaintiffs in *Anderson* unsuccessfully pursued an appeal against Beatrice that dragged the case out about four years past the time that plaintiffs settled with Grace.¹⁴⁶

B. AWARDS / SETTLEMENTS

The plaintiffs’ in the six case studies met with varied monetary; the lump sum totals for the cases, thus far, are reflected below in Table 3. Because the settlement in *Carroll* is confidential and the trial attorney was hesitant to offer even a ballpark figure on the terms of the settlement, I

¹⁴⁵See John J. Glisch, Residents Face Uphill Fight in Pollution Suits, ORLANDO SENTINEL TRIBUNE, Feb. 3, 1992, A1; Wearing down the plaintiffs was also one of the main themes in *A Civil Action*, *see generally* HARR, *supra* note 3.

¹⁴⁶In *Potter*, the plaintiffs saw an initial award of almost \$4.8 million reduced to about \$3.8 million in the California Court of Appeals, and then reduced again to \$520,575 by the California Supreme Court. The case finally settled almost six years after the original verdict. *See supra* notes 117-23 and accompanying text. Plaintiffs in *Sterling* watched their \$21.7 million award reduced to \$1.2 million by the Sixth Circuit Court of Appeals. The case settled more than two years after the original verdict. *See supra* notes 84-86 and accompanying text. Although plaintiffs in *Woodman* settled with Waste Control and Waste Management prior to trial, litigation against the Navy has dragged on for almost two-and-one-half years past the trial court’s verdict. *See supra* notes 100-5 and accompanying text.

did not average it into this analysis. Although the settlement in *Potter* is also confidential, I've used a figure of \$4.8 million based on Robert K. Crawford's representation that the plaintiffs received "substantially the same award" as they did from the trial court.¹⁴⁷ Additionally, although the *Woodman* case is still pending against the Navy, there is a definite minimum monetary result at this point. While this amount could be expanded by up to \$1.7 million, based on the award at the trial level, I chose to include it at the present known value of \$8.5 million.

Total Award

Table 3

Case	Total Award
Anderson	\$8,000,000
Renaud	0
Carroll	n/a*
Sterling	10,000,000
Woodman	8,500,000
<u>Potter</u>	<u>4,800,000</u>
Average	6,260,000

*Terms of settlement are confidential.

¹⁴⁷Crawford, *supra* note 125.

At first glance *Anderson, Woodman, Potter, and Sterling* appear to be clear winners for the plaintiffs. This, however, is not necessarily the case. First of all, each case had a number of plaintiffs who had to split the awards in various ways, not always equally. Additionally, before the awards could be divided among the plaintiffs, expert witness and other case preparation fees had to be taken care of. Finally, the attorneys were entitled to take their share of the pie. This often left plaintiffs with much less than one might think as we shall see in the next section.

C. CASE FEES - PREPARATION, EXPERT WITNESS, AND ATTORNEY

Data regarding specific case preparation and expert witness fees was available in five of the case studies. In *Anderson* these fees totaled about \$2.2 million. This figure was about double that of *Woodman* where expenses were just over \$1 million. Like *Woodman*, expert witness and other expenses in *Sterling* totaled just shy of \$1 million. Plaintiffs in *Potter* spent about \$600,000 in case and expert witness fees,¹⁴⁸ while *Carroll* came in at the bottom with a total of \$400,000 spent on expert witness and other case fees.¹⁴⁹

Despite the lack of some data in *Renaud*, it is possible to make an educated guess regarding

¹⁴⁸*Id.*

¹⁴⁹In *Carroll*, the EPA had ordered Litton to perform environmental testing and analysis as part of cleanup and monitoring of the contaminated site. Plaintiffs were granted access to this data as the result of discovery thereby saving several hundred thousand dollars in testing and analysis fees. Most of the remaining fees were for plaintiffs medical experts. Holt, *supra* note 75.

expert witness and other fees spent on the case. As described at length in sections II though VII of this paper, plaintiffs in each case had to employ numerous experts, such as hydrologists, geologists, and various medical experts including pathologists, neurologists, and psychiatrists in order to prove or, in the case of those cases that settled, be prepared to prove their case with respect to causation as well as damages. *Renaud* was no exception. Other case costs would include such things as stenographic support, travel expenses, and various administrative expenses. In *Renaud*, based on the complexity of the issues, the number of plaintiffs, as well as the known expenses in the other five case studies, it would be reasonable to assume plaintiffs spent at least \$500,000 in pursuing their case.

I have computed the known and estimated expert witness and other case costs into Table 4 below. These represent an average reduction in award of just over \$1 million after cases expenses.

Total Adjusted Award/Settlement After Subtracting Case Fees

Table 4

Case / Costs in \$ millions	Total Adjusted Award
Anderson / 2.2	\$5,800,000
Renaud / .5 (Estimated).....	(500,000)
Carroll / .5	n/a*
Sterling / 1.....	9,000,000
Woodman / 1	7,500,000
<u>Potter / .6</u>	<u>4,200,000</u>

Average	5,200,000
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*Terms of settlement are confidential.

Attorney fees were \$2.6 million in *Anderson*¹⁵⁰ and \$2.5 million in *Woodman*.¹⁵¹ Based on the adjusted award in Table 4, and a one-third contingency fee arrangement, *Sterling* would have resulted in about \$3 million in attorney fees, and *Potter* would have resulted in about \$1.4 million. Because *Renaud* is “in the red” after subtracting case expenses, the attorneys in those cases received “\$0” in attorney fees, assuming the cases were taken on a contingency fee arrangement. Although *Carroll* resulted in a settlement, the terms are confidential and, therefore, it is not possible to calculate the attorney fees. Table 5 represents the final lump sum award for plaintiffs in the six cases after subtracting case and attorney fees.

¹⁵⁰See *supra* note 38 and accompanying text. See also HARR, *supra* note 3, at 453.

¹⁵¹See *Woodman III*, 1995 U.S. Dist. LEXIS 2787 at 4-5. Plaintiffs’ attorneys received a one-third share of an \$8.5 million settlement after subtracting litigation expenses. *Id.* at 5

Total Adjusted Award After Subtracting Attorney Fees

Table 5

Case / Attorney Fees in \$ millions	Total Adjusted Award
Anderson / 2.6	\$3,200,000
Renaud / 0	(600,000)*
Carroll / n/a**	n/a**
Sterling / 3	6,000,000
Woodman / 2.5	5,000,000
<u>Potter / 1.4</u>	<u>2,800,000</u>
Average	3,280,000

* Because Renaud was dismissed on summary judgment, attorneys received no fees assuming they took the case on a contingency fee basis. The negative amount reflects estimated amounts paid for case expenses and expert witness fees.

** Terms of settlement are confidential.

D. INDIVIDUAL PLAINTIFFS' FINAL ADJUSTED AWARDS

Table 6 represents the final awards to plaintiffs in each of the six cases after adjusting for attorney and other case-related fees. Although amounts awarded each plaintiff generally varied according to each plaintiff's individual circumstances, for purposes of this analysis I have chosen reflect the average amount received per plaintiff in each case.

If you take the average of the sums listed in Table 6, it would appear as if the average award per plaintiff in each case was about \$184,000. This figure is skewed, however, by *Potter* which resulted in very high award for the four plaintiffs. A more representative average can be obtained by taking the sum of the adjusted case awards from each case after deducting attorney fees and other costs (\$16,400,000) and dividing it by the total number of plaintiffs in all the cases combined (284). By using this method, the resulting average final award per plaintiff is \$57,746.

Average Plaintiff Award After Subtracting Attorney Fees and Other Case Expenses

Table 6

Case / # of Plaintiffs	Average Award
Anderson / 33	\$96,969
Renaud / 12	0
Carroll / 22	n/a*
Sterling / 64.....	93,750
Woodman / 171.....	29,239
Potter / 4	700,000

* Terms of settlement are confidential.

It's important to note that, all plaintiffs who collected money did so as the result of a settlement rather than as part of a award from a court. In fact had the cases not settled, after subtracting case fees, plaintiffs in *Sterling* would have received only about \$3,000 each while

plaintiffs in *Potter* would have received \$0 as the result of rulings by the appellate courts.¹⁵²

The \$57,746 average final award per plaintiff in the case studies tracks above a national average of \$40,000 per plaintiff in toxic pollution cases, as indicated by some environmental groups.¹⁵³ For plaintiffs who suffer severe, or even moderate, medical problems as the result of consumption of contaminated water, this amount can be spent quickly on medical bills. To compound the problem of paying medical bills, many lower income families in the United States simply do not have medical insurance. As stated above, most of the plaintiffs in the case studies appear to fall in this group. Working people in this category often earn too much income to be eligible for Medicaid and cannot afford high health insurance premiums so they simply go without health insurance.¹⁵⁴

E. ENVIRONMENTAL TORT LITIGATION AS A DETERRENT TO POLLUTION

¹⁵²This is not to say that rulings by courts, both at the trial and appellate levels, do not play a role in influencing the ultimate terms of settlements. Judging from the amounts and timing of the settlements in each of the case studies, it seems clear that the courts played a major role in each of the settlement decision-making processes.

¹⁵³Glisch, *supra* note 93.

¹⁵⁴143 CONG. REC. H854, (daily ed. Mar. 11, 1997)(statement of Rep. Pallone).

In addition to providing compensation to plaintiffs, as discussed above, and income to attorneys, as discussed below, environmental tort litigation may provide the additional benefit of acting as a deterrent to companies or individuals who are weighing the pros and cons of polluting rather than the paying for the high costs of treatment and disposal of wastes. This deterrent effect is part of what Troyen A. Brennan describes as the normative theory of environmental torts.¹⁵⁵ Evidence, however, suggests that environmental torts suits currently send a weak deterrent signal. Environmental carcinogens cause an estimated 10,000 deaths annually in the U.S. In fact, 1985-86 statistics indicate defendants spent a total of \$200 million per year on environmental tort litigation, including litigation costs, jury verdicts, and settlements. This equated to about \$20,000 for each cancer death. On the other hand, medical malpractice figures for the same period were about \$143,000 per death.¹⁵⁶ Although the data is somewhat dated, it does suggest that the deterrence signal from environmental litigation is weak.

Nevertheless, from the normative perspective, Brennan would argue that, while regulation, market influences (such as the trading of pollution rights in the acid rain program), and criminal prosecution all produce some toxic pollution deterrence, they do not offer much in the way of eliminating injuries and deaths associated with the accompanying

¹⁵⁵Troyen A. Brennan, *Environmental Torts*, 46 VAND. L. REV. 1, 5 (1993).

¹⁵⁶*Id.* at 6-7 & n.16.

pollution.¹⁵⁷ From the normative viewpoint it would, therefore, seem that any additional deterrence tort law could provide would be beneficial.

F. ATTORNEY CONSIDERATIONS

Troyen A. Brennan has written:

¹⁵⁷*Id.* at 47.

Much of what has been written about toxic torts, and the little that had addressed environmental torts, suggests that environmental tort suits should be rare because the cases are so difficult to win. The variety of scientific, evidentiary, and tort doctrinal issues would appear to frustrate even the most committed plaintiffs' attorneys. Therefore, the challenge for a positive theory of environmental torts is to explain how lawyers are able to obtain fees in the face of such obstacles.¹⁵⁸

To put this another way, if there was no economic gain by the attorneys in environmental litigation, they would pursue other kinds of cases. It's simply a matter of economics.

In the case studies, plaintiffs' attorneys have batted a very high .830 insofar as getting favorable results for their clients. Plaintiffs' attorneys also seem to have faired generally well with respect to their attorney fees: *Anderson* - \$2.6 million; *Sterling* - \$3 million; *Woodman* - \$2.5; and *Potter* - \$1.4 million. Although attorney fees in *Carroll* are not available due to the confidentiality of the settlement, the trial attorney indicated the fees, as well as the plaintiffs' awards, made the case worthwhile.¹⁵⁹ In fact, of the six cases, *Renaud* appears to be the only outright loss. Such odds of getting a victory and high payoff in any type of litigation would seem appealing to most attorneys.

¹⁵⁸ *Id.* at 5. The “positive theory” described by Brennan explains why environmental tort litigation occurs. It emphasizes the economic gain, by at least some of the participants, that drives the process of tort litigation. Brennan believes the positive theory of environmental torts must explain how attorneys are able to gain compensation for their clients and themselves.

¹⁵⁹ Holt, *supra* note 75.

The top line, however, doesn't fill in all the details. As discussed in section VIII.,B, these cases are not won overnight or even over a period of a few years. They can consume years and years of time which, for a small law firm in particular, can be devastating both financially and personally. *A Civil Action* paints a grim picture for any small law firm considering taking on such a case. From the start of the litigation, Schlichtmann, Conway & Crowley, the firm representing the plaintiffs in *Anderson* experienced a number of difficulties in financing the case. Although they did receive approximately \$1 million shortly after filing the case from one defendant who had opted to settle rather than litigate, this money did not even cover expenses incurred up to that point.¹⁶⁰ As the case moved closer to trial it began consuming all of the firm's time and energy to the exclusion of other cases.¹⁶¹ This resulted in severe cash-flow problems--no settlements or verdicts for clients meant no money coming into the firm. The firm ended up taking out a number of loans from the Bank of Boston, ran up massive debts (one attorney at the firm spent a majority of his workday keeping creditors at bay), mortgaged their homes, and even resorted to running the day-to-day business on pre-approved credit cards they received in the mail. The \$2.2 million in case fees as billed didn't even begin to cover the true costs of the litigation to the firm — the salaries and benefits paid to the secretaries, associates, and paralegals, the overhead, and other costs of running an office.¹⁶² After settling as many of the trial debts as possible, the firm dissolved. Then Jan Schlichtmann, the lead attorney on the case,

¹⁶⁰See *supra* note 25.

¹⁶¹HARR, *supra* note 3, at 455.

¹⁶²*Id.* at 454-5.

declared bankruptcy.¹⁶³ Following the settlement he spent several years in Hawaii doing virtually nothing after which he returned to Massachusetts. While he apparently had a very promising career ahead of him as a trial lawyer, he no longer practices law.¹⁶⁴

Table 7 reflects the final attorney fees, in terms of annual income, when spread out over the course of the litigation. Although each firm likely began working on their respective cases at various times after the discovery of the contamination, for purposes of this paper and ease of analysis I've used the period from the date of discovery until to the final award/settlement to compute this figure.

¹⁶³*Id.* at 491.

¹⁶⁴*Id.* at 493.

Attorney Fees Reflected in Annual Income over the Life of the Case

Table 7

Case / # of years	Average Annual Income
Anderson / 11	\$236,636
Renaud / 5	0
Carroll / 10	n/a*
Sterling / 12.....	250,000
Woodman / 14.....	178,571
<u>Potter / 10</u>	<u>140,000</u>
Average	161,000

* Terms of settlement are confidential.

While the annual incomes reflected in *Anderson, Sterling, Woodman, and Potter* would appear to be handsome sums for an individual lawyer, as seen in *Anderson*, these sums will not necessarily go to one attorney.¹⁶⁵ Additionally, like other businesses, law firms and offices must pay various overhead and other expenses in order to sustain daily operations. In that light, none of the lump sum attorneys' fees in the six case studies would go very far if that was the primary

¹⁶⁵The attorneys interviewed in *Sterling, Woodman, and Potter* also indicated other attorneys and firms were involved in the cases, some handling specific matters at trial and others handling the appeals. Holt, *supra* note 75; Lippes, *supra* note 105; Amerian, *supra* note 124; Crawford, *supra* note 125.

income for the attorney or firm.

On the other hand, Table 7 likely skews the actual economic benefits to the attorneys handling the cases. According to the attorneys interviewed from the *Sterling, Woodman, and Potter* cases, there were periods of time during which very little happened on the case. This enabled them to devote time to other cases thereby generating income for their firms and offices. All of the attorneys were of the opinion that the ultimate outcomes of the cases were worth it financially for both the plaintiffs and attorneys.¹⁶⁶

Another consideration addressed by Robert Crawford, the trial attorney in *Potter*, is that, even if the attorney doesn't "break the bank" on this type of case, the time and energy invested may pay off "big-time" in similar cases in the future. The experience and knowledge gained in presenting such a case can be used over and over. More importantly, though, is the reputation an attorney establishes in a case or succession of cases may induce a defendant to settle early on rather than litigate.¹⁶⁷

IX. CONCLUSION

¹⁶⁶*Id.*

¹⁶⁷*Id.*, Crawford.

In litigating groundwater contamination cases such as the six case studies the answer to the question “Is it worth it?” appears to be “Yes.” In *Anderson* and *Sterling*, the answer for most of the plaintiffs would likely be yes as each received almost \$100,000 for what some might argue was doing little more sign some papers and let the attorneys do the rest of the work. Plaintiffs in *Potter* received seven times that amount; even with medical and other expenses it was certainly worth it financially for the plaintiffs in this case. In light of the fact that plaintiffs in *Woodman* would have gained nothing had they not pursued the case, one might also say the \$30,000 each plaintiff received from the pretrial settlement was worth it even though much of it might have already been spent on medical and other bills prior to the award. Although the terms of the settlement in *Carroll* are confidential, the trial attorney in that case indicated it was also worth it.¹⁶⁸ As mentioned above, it appears as if most of the plaintiffs in these cases were from lower socioeconomic backgrounds and awards even in the \$30,000 range might seem quite substantial.

On the other hand, some of the plaintiffs might say it wasn’t worth it in the long run considering the pressures associated with a trial such as: having to testify and being subject to cross-examination; having to be present at numerous appointments with attorneys and medical experts; and the general disruption of life caused by litigation, particularly the fact that this disruption will generally go on for years and years. As discussed above, this disruption took its toll on a number of the plaintiffs’ personal lives in these cases. In some cases, plaintiffs opted to

¹⁶⁸Holt, *supra* note 75.

settle early on for small sums rather than be dragged into the lengthy litigation. In other cases, some of the plaintiffs elected not to appeal the lower court's rulings. In *Renaud*, where the plaintiffs ended up losing outright one would have to say it wasn't worth it for the plaintiffs. Even though the case likely involved no out-of-pocket expenses on the part of the plaintiffs, the hassles of litigation were probably not worth it in the long run.

As far as plaintiffs attorneys are concerned, the six case studies indicate the odds of "turning a profit" in such a case are encouraging. Of the five "winners," however, *Anderson* was an obvious losing proposition for the firm of Schlichtmann, Conway & Crowley who saw \$2.6 million in attorney's fees wiped out after paying referral fees, fees to other attorneys involved, and for the general expenses of operating the firm over the course of the litigation.¹⁶⁹ Other similar small to mid-sized firms may not have the resources, both monetary and manpower-wise, that a large firm might have in order to withstand the challenges of litigating these types of cases.

To compound the resource limitations of many small to mid-sized firms, defendants in these types of cases are often large corporations or, as in *Woodman*, a governmental agency. While data concerning case expenses was not readily available for the defendants in all the case studies, information indicates the defendants in *Anderson* spent a combined \$14 million on the case,

¹⁶⁹By Harr's account, the firm spared no expense in pursuing the case; in fact, a number of the expenses could be characterized as wasteful or even decadent. Perhaps the firm could have turned the case into a winning proposition had it kept its purse strings in check. See generally HARR, *supra* note 3.

more than six times the amount plaintiffs spent. In *Woodman*, the Navy has spent well over \$2 million. The corporations involved in the remaining four case studies no doubt spent similar amounts in defense of their interests.

As stated at the beginning of this paper, I chose the six case studies because of accessibility more than any other single factor. I also limited my research to these six case studies due to time constraints. They represent only a sample of recent groundwater contamination litigation and it would, therefore, be presumptuous of me to say the results of my analysis represent the true state of this area of the law. More in-depth studies of this type of litigation are necessary in order to show the full picture.¹⁷⁰

Nevertheless, these cases are instructive on a number of logistical considerations plaintiffs and attorneys must face when litigating claims of this nature, particularly in the financial arena. Several factors in the cases indicate the most desirable groundwater cases will have the following characteristics: a single source of pollution, such as a waste dump or a factory; a direct pathway for the defendant's chemicals to get into the plaintiffs' homes, such as through a private water well drilled into an aquifer polluted by the defendant; and some type of physical injury or medical condition that can be connected to the defendant's chemicals. If these three conditions are present, as was the case in *Carroll*, *Sterling*, *Woodman*, and *Potter*, the odds for success

¹⁷⁰While weekly publications, such as the Toxics Law Reporter, highlight new filings on a weekly basis, precise information on the numbers and results of these types cases is generally not available. Brennan, *supra* note 155, at 4. A number of factors affect the accessibility of data: many cases settle early on and are, therefore, not reported; even when a case appears in print, settlement prior to remand will not be reported; and when cases that settle are reported in the media, the terms of the settlement are often confidential.

appear to be in the plaintiffs' favor.

Plaintiffs meeting these conditions should, however, give serious consideration to settling such cases early on. While they may eventually get a favorable verdict or settle at some later date during the litigation, this might be a decade-long wait. Settling early on, even for a sum considerably less than a later judgment, might be more beneficial in the long run. Cases that don't meet the above conditions should send up a caution flag to alert prospective litigants to the potential pitfalls ahead of them. The bottom line is that plaintiffs' attorneys should choose these cases carefully or they might find that, instead of jumping onto the gravy train, they've jumped into a black hole.